Note: Use additional pages if more space is needed.

BUDGET ITEM NO.	A/U NO.	REGION	CAPITAL TYPE (see back)	AFUDC (see back)	Estimated Expenditures (Direct Capital Cost Only) ($000)			
	399	Central	Information Techno	☐ Yes ☐ No	Year	This Request	Previous Authorization	Total Authorization
Activity # Investment				PARTIAL AUTHORIZATION ☐ Yes ☐ No	2008	$ 3,772	$	$ 3,772
Activity # Retirement					2009	$ 1,303	$	$ 1,303
Activity # Investment						$	$	$
Activity # Retirement						$	$	$
FILE NO.	NBA / MR / PI / SI NO.		ESTIMATED START DATE	EST. COMPLETION	Retired	$	$	$
			Year 2008	Year 2009				
			Quarter 2	Quarter 3	Total	$ 5,075	$	$ 5,075

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Project Location
G.O.

Project Description
New CCB Servers and Disk Storage to support ongoing business growth and the upgrade of CCB software from current release 1.5.10 (March 2005) to release 2.2 in July 2009.

Alternatives Considered
For Servers: HP Superdome and HP RX8640 was considered.
For Disk Storage: EMC DMX4, HP XP24K, Netapp, and Hitachi.

Reason for Request
Business drivers for the CCB Server and Disk Storage project are to enable Customer Care projects by implementing the most current software, upgrade the underlying technology and application architecture, and increase the server and disk capacity to meet increasing business requirements and maintain support for CCB.

Reason for Budget Revision

For Revisions Only	Reimbursable?	Income Taxes on Reimbursable Projects	Included in overall budget? ($000)
Revision: ☐ 1 ☐ 2 ☐ 3 ☐ 4	☐ No ☐ Yes ___%	☐ No (Public Interest) ☐ Yes (Private Party) see instructions	☒ Yes ☐ No Dollars and year(s): $1,000 in 2008, $100 in 2009

Operating Expense Impact (specify in detail)
No additional impact due to retirement of existing hardware.

Economic Assessment Data

Item (see page 2)	Value
Cost of Capital (after tax)	8.05%
Net Present Value at C/C (after tax)	$ -3.0m
Internal rate of return (IRR), if applicable	%

PRELIMINARY (RANGE -3.0m TO -3.3m)

Financial Analysis and Projects Approval

By _____ Date 4-14-08

Approvals

TAG APPROVAL DATE 4/14/08	I.T.S.C. APPROVAL ~~Budget~~ DATE
PRINT RECOMMENDED BY DATE Denise Kirkhofer 4/14/08	PRINT APPROVED BY VICE-PRESIDENT DATE Barbara A. Zeller 4-16-08
RECOMMENDED BY SIGNATURE Denise Kirkhofer	APPROVED BY SIGNATURE – VICE-PRESIDENT Barbara A. Zeller
APPROVED BY CMT DATE	APPROVED BY EXECUTIVE COMMITTEE DATE
CMT COMPLETION BY DATE	POST INVESTMENT REVIEW ☐ Yes ☐ No ☐ Undecided If yes, Quarter_____ Year_____
ACCOUNTING APPROVAL - CAPITALIZED SOFTWARE	BUDGET COMPLETION/ TOLERANCE CHECK BY DATE

Forward completed form to: Supervisor Plant Accounting / GO-5 East

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CC&B 2.2 Release Recommendation

CMT 4/22/08

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CC&B Release 2.2 Recommendation

Customer Care and Information Services are recommending that the CC&B software be upgraded from the current release 1.5.10 (released March 2005) to Release 2.2 in 2009

Business Drivers

- CC&B Release 2.2 is the most current level of software
- Upgrade the underlying technology and application architecture
- Increase the server and disk capacity to meet increasing business requirements

Estimated Costs

- $960,000 for 12,000 hours of internal ADS/BSS/Operations for application testing and conversion support (2007-2009)
- $2.7M capital for new CC&B servers for Production, Business Continuation, Testing, and Disaster Recovery (2008-2009)
- $2.4M capital for new CC&B disk (2008-2009)

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CC&B 2.2 Release Application

CC&B Release 2.2 Functional Changes are Expected to Include:

- Improved "To Do" Management Capabilities
- Data Encryption and Data Masking
- Configurable/Custom Information Displays
- Enhanced Ability to Evaluate the Effectiveness of Credit & Collection Processes
- Interfaces from CC&B to the Utility Business Intelligence (UBI) Data Warehouse

CC&B 2.2 Release Technology

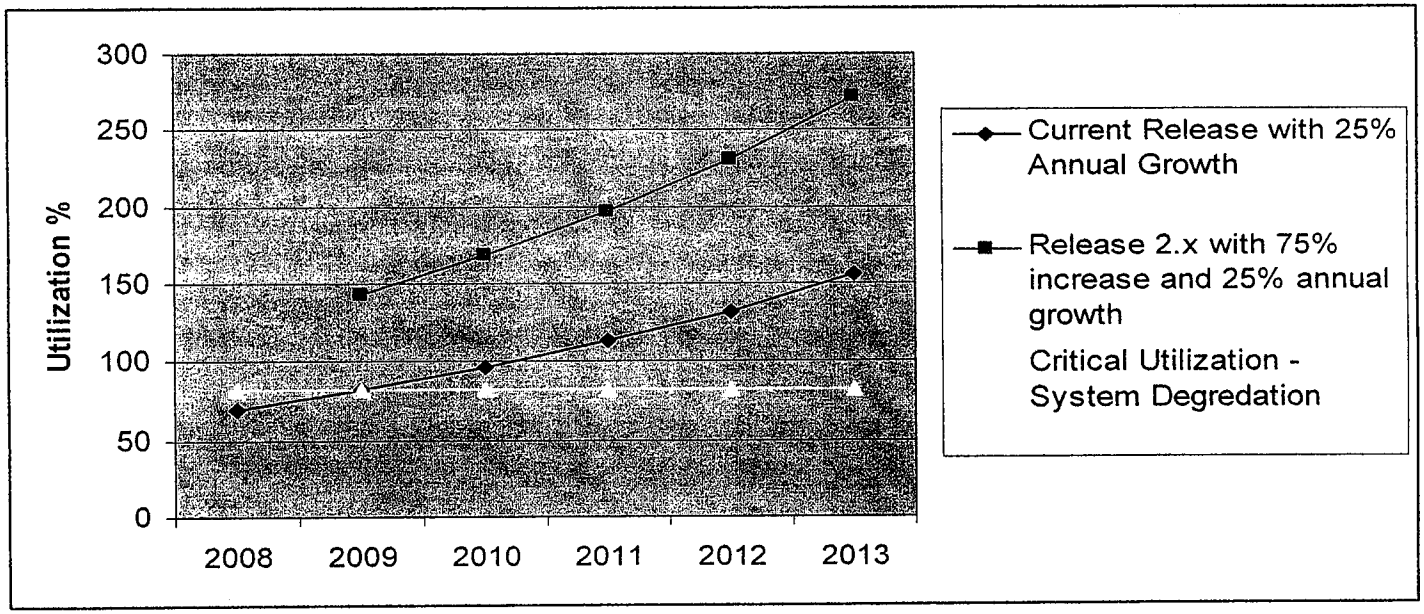
CCB's Technology and Application Architecture Changes:

- Upgrade COBOL compiler to version 5
- Upgrade scripting language Perl to version 5.8.8
- Introduce Java version 1.5.0.05
- Upgrade BEA WebLogic Web server to version 9.2 SP1
- Install Hibernate version 3.1.3 to replace Tuxedo for Database Queue management
- Upgrade Oracle from version 9.2.05 to version 10.2.0.4

CC&B 2.2 Release Servers

CC&B Release 2.2 scheduled for 2009 requires increase server capacity

- Oracle estimates increased application server utilization of 75% due to technical changes
- Encryption and data masking impact is presently unknown, but expected to increase utilization
- Business utilization is projected to continue to increase 25% for the next 2-3 years due to planned Customer Care projects



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CC&B 2.2 Release Servers

IT is recommending moving CC&B to the Superdome architecture with Itanium processors. This is the next generation of HP servers.

The Superdome is highly scalable and has:

- Faster processor speeds compared to our current servers
- Increased capacity to add processors & memory
- High availability capabilities for business continuity
- Processor-on-demand capabilities for peak processing periods
- The ability for our DR environment to scale and match our production environment

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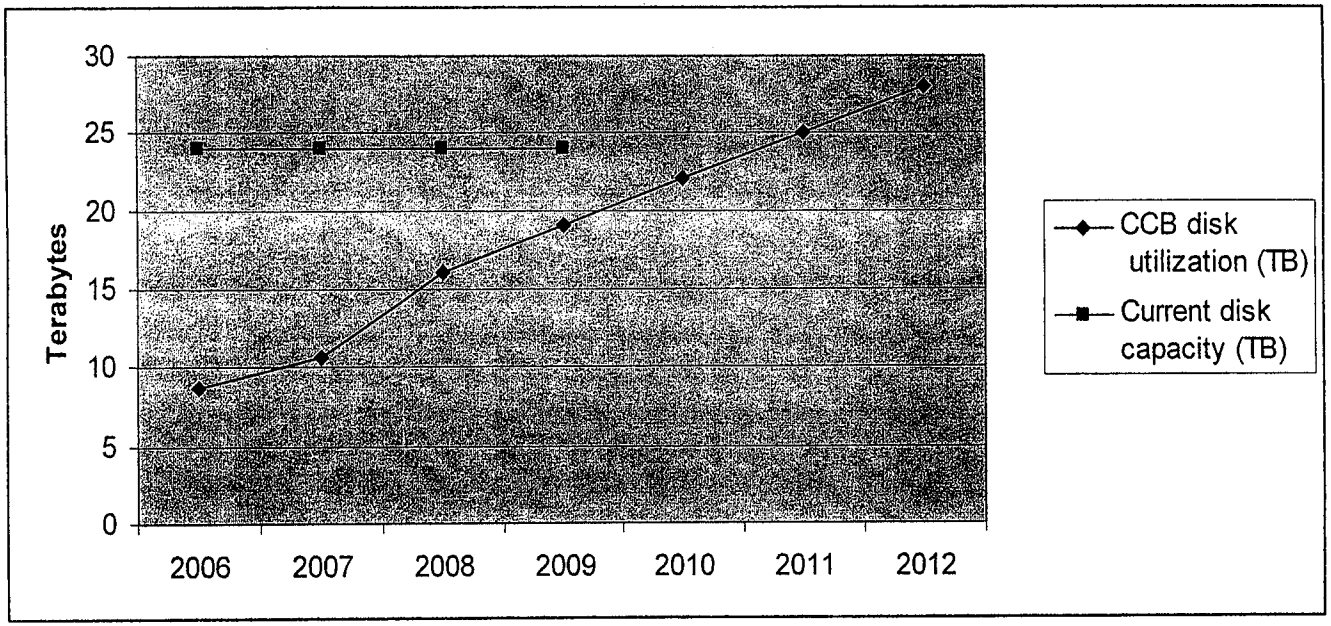
CC&B 2.2 Release Storage

- Our current disk reaches its 5 year maintenance life in 2009
- The CC&B database has grown 65%-75% in 2006 and 2007 and accounts for 90% of our current Storage
- Multiple copies of CC&B exist to support testing and reporting
- Maintain 25 months of active customer data (beginning in 2008)
- Incremental growth due to data warehouse, Customer Care projects, and online archive requirements



CC&B 2.2 Release Storage

IT is recommending replacing our current disk system with disk that has:

- Ability to scale and meet the CC&B disk needs through 2013
- Increased performance based on memory capacity
- Meets/maintains current requirements for availability and mirroring

Currently there are 2 solutions that meet our requirements and are out to RFP

We expect to choose a solution/vendor in May-2008

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Appendix

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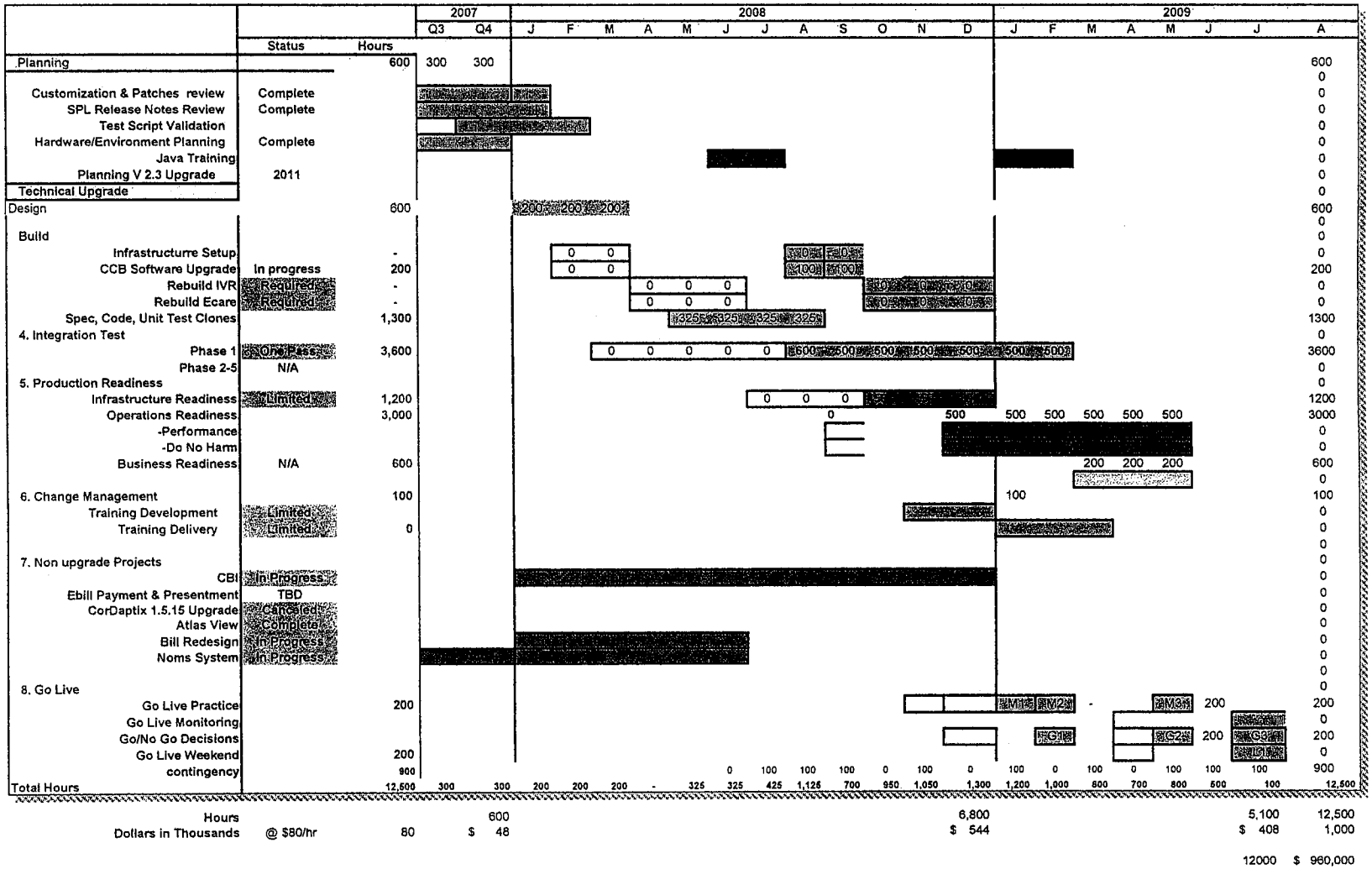
CC&B Upgrade Milestones



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CC&B 2.2 Release Recommendation

CC&B Hardware Requirements

Req#	Requirement Description	Priority (high, medium, low)	Option A Superdome new servers	Option B RX8640 new servers
R1	CC&B proposed hardware can be scaled (Processor and Memory) to provide 5-year growth from time of purchase with 25% incremental annual expandability.	High	Yes	Yes
R2	Hardware supports defined Key Performance Indicators (KPIs) for online response, availability and batch for the Voice of the Customer.	High	Yes	Yes
R3	For Business Continuation: • During Business continuation, the CC&B application maintains production performance. • The highly available CC&B application could experience an outage for up to one hour.	High	Yes	Yes
R4	Disaster Recovery and Testing Hardware: • Continues to support established Recovery Time Objective (72 hours) and Recovery Point Objective (24 hours). • Is built at 50% and will be 100% in the event of disaster. • May be used for full-volume production readiness testing (ORT) with 50% application capacity 100% database capacity.	High	Yes	Yes

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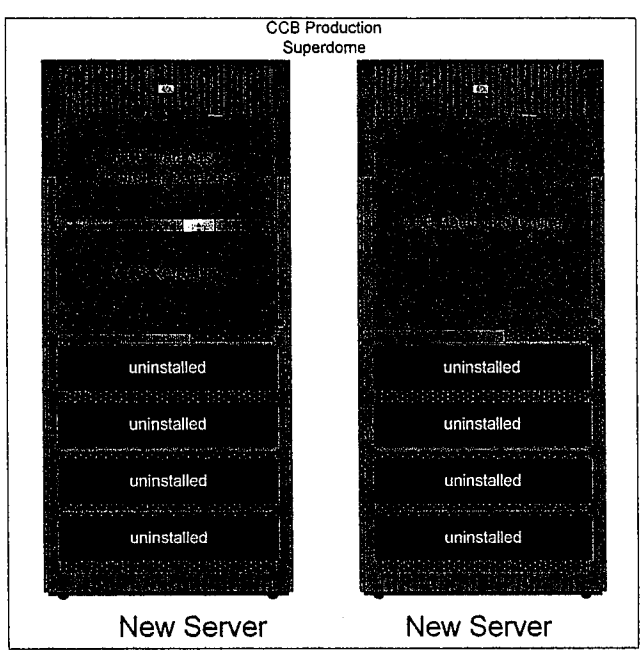
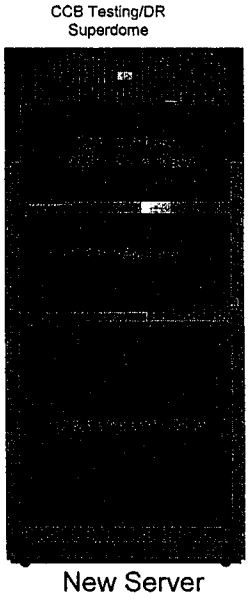
CC&B 2.2 Release Servers

Recommended Option - Superdome





2008 $1.5M Capital for Production at GO ($250K OE)

2009 $.8M for Testing & Disaster Recovery at Sycamore ($70K OE)

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CC&B 2.2 Release Servers

Detailed Server Costs

Estimated Cost of Recommended Approach

2008 Purchase for Production Environment

Hardware		Software		Labor		Maintenance (8 months)		Total 2008 Capital
Servers	$ 1,157,136	OS	$ 100,969	Internal	$ 45,360	Server HW/SW	$ 138,107	
Installation	$ 45,632	ORACLE	$ 104,167	Consulting	$ 80,000	ORACLE	$ 90,000	
Tax	$ 92,571	Other	$ 37,229			Other	$ 12,279	
Cabling	$ 30,000							
Shipping	$ 7,000							
Total	$ 1,332,338	Total	$ 242,365	Total	$ 125,360	Total	$ 160,257	$ 1,860,320

2009 Purchase for Sycamore (Test/DR) Environment

Hardware		Software		Labor		Maintenance (7 months)		Total 2009 Capital
Servers	$ 441,085	OS	$ 50,485	Internal	$ 22,680	Server HW/SW	$ 34,315	
Installation	$ 10,188	ORACLE	$ -	Consulting	$ 40,000	ORACLE	$ -	
Tax	$ 35,287	Other	$ 21,190			Other	$ -	
						7 mos. hw/sw maint	$ 140,225	
Cabling	$ 20,000							
Shipping	$ 3,500							
Total	$ 510,060	Total	$ 71,675	Total	$ 62,680	Total	$ 174,540	$ 818,955

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CC&B 2.2 Release Servers

Option Capacity Comparison

	No	Server Name	Server Model	Function	Current Hi Avg Utilization	Current CPU Cores	Max. CPU Cores	Current Memory	Performance Number	Expected Performance Number for 50% Util
Current	1	Cheetah	rp8420 - n0	CCB DB Server	85%	12	32	**48**	211,700	**317,550**
	2	Langur	rp8420 - n1	TUX & Batch Server	60%	12		**48**	211,700	**444,570**
	3	Jackal	rp7420 - n0	TUX for Onlines & Cntrl-M App	45%	8	16	**48**	173,000	**311,400**
	4	Coyote	rp7420 - n1	WebLogic Server	55%	2		20	52,900	**95,220**
	5	Gnu	L3000	WebLogic Server	65%	4	4	16	54,600	**98,280**
Production						38	52	180	703,900	
Option A PROD SuperDome	1	Cheetah	SD-64 - n0	CCB DB Server	50%	10		80	370,675	
	2	Langur	SD-64 - n1-v1	Batch Server	50%	14	128	112	497,825	
	3	Jackal	SD-64 - n1-v2	Batch & Cntrl-M App Server	50%	10		80	370,675	
						34	128	272	1,239,175	
Option B PROD New rx8640		Cheetah	rx8640	DB Server	50%	12	32	96	351,650	
		Langur	rx8640	Batch and WebLogic	50%	16	32	128	455,500	
		Jackal	rx8640	Batch, WebLogic, Cntrl-M App	50%	12	32	96	351,650	
						40	96	320	1,158,800	
DR										
Option A DR SuperDome	1	Cheetah	SD-64 - n0	CCB DB Server	50%	4 + 6		32 + 48	370,675	
	2	Langur	SD-64 - n1-v1	Batch Server	50%	6 + 8	128	48 + 64	497,825	
	3	Jackal	SD-64 - n1-v2	Batch & Cntrl-M App Server	50%	4 + 6		32 + 48	370,675	
						14 + 20	128	112 + 160	1,239,175	
Option B DR New rx8640		Cheetah	rx8640	DB Server	50%	12	32	96	351,650	
		Langur	rx8640	Batch and WebLogic	50%	16	32	128	455,500	
						28	64	224	807,150	

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CC&B Release 2.2 Storage

CC&B Storage Requirements

Req#	Requirement Description	Priority (high, medium, low)	Option A EMC	Option B HP
R1	Scalability- Can grow for capacity and performance	High	Yes	Yes
R2	Availability No single point of failure	High	Yes	Yes
R3	Performance - Measurable improvement versus current solution	High	Yes	Yes
R4	Integration - With existing OS, protocols, enterprise tools	High	Yes	Yes
R5	Tools and Features - Tools and features for managing the solution	High	Yes	Yes

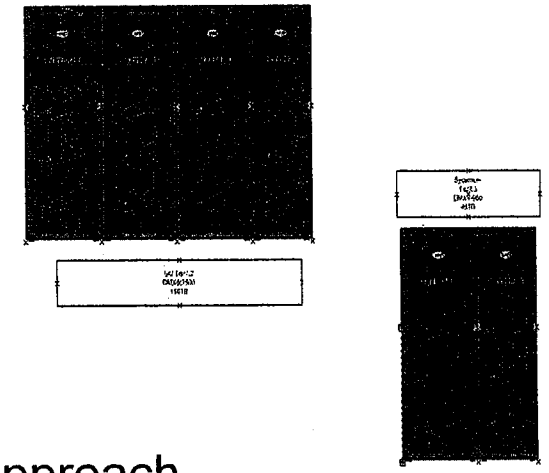
CC&B Release 2.2 Storage

Production (GO)

- Tier 1 – 56 TB
- Tier 2 – 100 TB

Test & Disaster Recovery

- Tier 2 & 3 – 46 TB



Estimated Cost of Recommended Approach

2008 Storage Purchase for Production Environment

Hardware		Labor		Total Capital	Maintenance (OE)	
Disk	$ 1,650,000	Internal	$ 100,000		HW/SW	$ 85,000
Tax	$ 100,000	Consulting	$ 20,000			
Total	**$ 1,750,000**	**Total**	**$ 120,000**	**$ 1,870,000**	**Total**	**$ 85,000**

2009 Storage Purchase for Sycamore (Test/DR) Environment

Disk	$ 420,000	Internal	$ 25,000		HW/SW	$ 15,000
Tax	$ 30,000	Consulting	$ 5,000			
Total	**$ 450,000**	**Total**	**$ 30,000**	**$ 480,000**	**Total**	**$ 15,000**